SEQUENCE LISTING

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PAN, YING-XIAN

<120> IDENTIFICATION AND CHARACTERIZATION OF MULTIPLE SPLICE VARIANTS OF THE KAPPA3-RELATED OPIOID RECEPTOR (KOR-3) GENE

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<140> 10/606,592
<141> 2003-06-26

<150> 09/743,871
<151> 2001-03-13

<150> PCT/US99/15977
<151> 1999-07-15

<150> 60/093,002
<151> 1998-07-16

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Asp Ser Arg His Thr Lys Met Lys Thr Ala Thr Asn Ile Tyr Ile Phe
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Asn Leu Ala Leu Ala Asp Thr Leu Val Leu Leu Thr Leu Pro Phe Gln
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Gly Thr Asp Ile Leu Leu Gly Phe Trp Pro Phe Gly Asn Ala Leu Cys
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Ser Leu Met Ile Arg Arg Leu Arg Gly Val Arg Leu Leu Ser Gly Ser
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Arg Glu Lys Asp Arg Asn Leu Arg Arg Ile Thr Arg Leu Val Leu Val
225                 230                 235                 240

Val Val Ala Val Phe Val Gly Cys Trp Thr Pro Val Gln Val Phe Val
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Leu Val Gln Gly Leu Gly Val Gln Pro Gly Ser Glu Thr Ala Val Ala
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Ile Leu Arg Phe Cys Thr Ala Leu Gly Tyr Val Asn Ser Cys Leu Asn
        275                 280                 285

Pro Ile Leu Tyr Ala Phe Leu Asp Glu Asn Phe Lys Ala Cys Phe Arg
    290                 295                 300

Lys Phe Cys Cys Ala Ser Ala Leu His Arg Glu Met Gln Val Ser Asp
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Arg Val Arg Ser Ile Ala Lys Asp Val Gly Leu Gly Cys Lys Thr Ser
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Leu Leu Leu Asn Ala Ser His Ser Ala Phe Leu Pro Leu Gly Leu Lys
        35                  40                  45

Val Thr Ile Val Gly Leu Tyr Leu Ala Val Cys Ile Gly Gly Leu Leu
    50                  55                  60

Gly Asn Cys Leu Val Met Tyr Val Ile Leu Arg Gln Cys Pro Glu Asn
65                  70                  75                  80

Pro Leu Arg Gly Val Leu Arg Glu Thr Glu Glu Arg Arg Gln His Leu
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            20                  25                  30

Leu Leu Leu Asn Ala Ser His Ser Ala Phe Leu Pro Leu Gly Leu Lys
        35                  40                  45

Val Thr Ile Val Gly Leu Tyr Leu Ala Val Cys Ile Gly Gly Leu Leu
    50                  55                  60

Gly Asn Cys Leu Val Met Tyr Val Ile Leu Arg Gln His Cys Ala Leu
65                  70                  75                  80

Gly Arg Ser Leu Met Asn Phe Thr Gly Ser Ala Leu Lys Thr Leu
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Leu Leu Leu Asn Ala Ser His Ser Ala Phe Leu Pro Leu Gly Leu Lys
         35                  40                  45

Val Thr Ile Val Gly Leu Tyr Leu Ala Val Cys Ile Gly Gly Leu Leu
     50                  55                  60

Gly Asn Cys Leu Val Met Tyr Val Ile Leu Arg His Thr Lys Met Lys
 65                  70                  75                  80

Thr Ala Thr Asn Ile Tyr Ile Phe Asn Leu Ala Leu Ala Asp Thr Leu
                 85                  90                  95

Val Leu Leu Thr Leu Pro Phe Gln Gly Thr Asp Ile Leu Leu Gly Phe
            100                 105                 110

Trp Pro Phe Gly Asn Ala Leu Cys Lys Thr Val Ile Ala Ile Asp Tyr
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Tyr Asn Met Phe Thr Ser Thr Phe Thr Leu Thr Ala Met Ser Val Asp
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Arg Tyr Val Ala Ile Cys His Pro Ile Arg Ala Leu Asp Val Arg Thr
145                 150                 155                 160

Ser Ser Lys Ala Gln Ala Val Asn Val Ala Ile Trp Ala Leu Ala Ser
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Val Val Gly Val Pro Val Ala Ile Met Gly Ser Ala Gln Val Glu Asp
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Ser Ser Cys Met Ser Ser Ser Ala Gly Arg Ala Leu Arg Gly Thr Gly
         35                  40                  45
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Asp Ser Arg His Thr Lys Met Lys Thr Ala Thr Asn Ile Tyr Ile Phe
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Asn Leu Ala Leu Ala Asp Thr Leu Val Leu Leu Thr Leu Pro Phe Gln
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Gly Thr Asp Ile Leu Leu Gly Phe Trp Pro Phe Gly Asn Ala Leu Cys
                 85                  90                  95

Lys Thr Val Ile Ala Ile Asp Tyr Tyr Asn Met Phe Thr Ser Thr Phe
            100                 105                 110

Thr Leu Thr Ala Met Ser Val Asp Arg Tyr Val Ala Ile Cys His Pro
        115                 120                 125

Ile Arg Ala Leu Asp Val Arg Thr Ser Ser Lys Ala Gln Ala Val Asn
    130                 135                 140

Val Ala Ile Trp Ala Leu Ala Ser Val Val Gly Val Pro Val Ala Ile
145                 150                 155                 160

Met Gly Ser Ala Gln Val Glu Asp Glu Glu Ile Glu Cys Leu Val Glu
                165                 170                 175

Ile Pro Ala Pro Gln Asp Tyr Trp Gly Pro Val Phe Ala Ile Cys Ile
            180                 185                 190

Phe Leu Phe Ser Phe Ile Ile Pro Val Leu Ile Ile Ser Val Cys Tyr
        195                 200                 205

Ser Leu Met Ile Arg Arg Leu Arg Gly Val Arg Leu Leu Ser Gly Ser
    210                 215                 220

Arg Glu Lys Asp Arg Asn Leu Arg Arg Ile Thr Arg Leu Val Leu Val
225                 230                 235                 240

Val Val Ala Val Phe Val Gly Cys Trp Thr Pro Val Gln Val Phe Val
                245                 250                 255

Leu Val Gln Gly Leu Gly Val Gln Pro Gly Ser Glu Thr Ala Val Ala
            260                 265                 270

Ile Leu Arg Phe Cys Thr Ala Leu Gly Tyr Val Asn Ser Cys Leu Asn
        275                 280                 285

Pro Ile Leu Tyr Ala Phe Leu Asp Glu Asn Phe Lys Ala Cys Phe Arg
    290                 295                 300

Lys Phe Cys Cys Ala Ser Ser Leu His Arg Glu Met Gln Val Ser Asp
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Arg Val Arg Ser Ile Ala Lys Asp Val Gly Leu Gly Cys Lys Thr Ser
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Glu Thr Val Pro Arg Pro Ala
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35 40 45

Trp His Thr Lys Met Lys Thr Ala Thr Asn Ile Tyr Ile Phe Asn Leu
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Ala Leu Ala Asp Thr Leu Val Leu Leu Thr Leu Pro Phe Gln Gly Thr
65 70 75 80

Asp Ile Leu Leu Gly Phe Trp Pro Phe Gly Asn Ala Leu Cys Lys Thr
85 90 95

Val Ile Ala Ile Asp Tyr Tyr Asn Met Phe Thr Ser Thr Phe Thr Leu
100 105 110

Thr Ala Met Ser Val Asp Arg Tyr Val Ala Ile Cys His Pro Ile Arg
115 120 125

Ala Leu Asp Val Arg Thr Ser Ser Lys Ala Gln Ala Val Asn Val Ala
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Ile Trp Ala Leu Ala Ser Val Val Gly Val Pro Val Ala Ile Met Gly
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Ser Ala Gln Val Glu Asp Glu Glu Ile Glu Cys Leu Val Glu Ile Pro
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Thr Pro Gln Asp Tyr Trp Gly Pro Val Phe Ala Ile Cys Ile Phe Leu
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Phe Ser Phe Ile Val Pro Val Leu Val Ile Ser Val Cys Tyr Ser Leu
195 200 205

Met Ile Arg Arg Leu Arg Gly Val Arg Leu Leu Ser Gly Ser Arg Glu
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Lys Asp Arg Asn Leu Arg Arg Ile Thr Arg Leu Val Leu Val Val Val
225                 230                 235                 240

Ala Val Phe Val Gly Cys Trp Thr Pro Val Gln Val Phe Val Leu Ala
                245                 250                 255

Gln Gly Leu Gly Val Gln Pro Ser Ser Glu Thr Ala Val Ala Ile Leu
            260                 265                 270

Arg Phe Cys Thr Ala Leu Gly Tyr Val Asn Ser Cys Leu Asn Pro Ile
        275                 280                 285

Leu Tyr Ala Phe Leu Asp Glu Asn Phe Lys Ala Cys Phe Arg Lys Phe
    290                 295                 300

Cys Cys Ala Ser Ala Leu Arg Arg Asp Val Gln Val Ser Asp Arg Val
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            20                  25                  30

Pro Pro His Leu Leu Leu Asn Ala Ser His Gly Ala Phe Leu Pro Leu
        35                  40                  45

Gly Leu Lys Val Thr Ile Val Gly Leu Tyr Leu Ala Val Cys Val Gly
    50                  55                  60

Gly Leu Leu Gly Asn Cys Leu Val Met His Thr Lys Met Lys Thr Ala
65                  70                  75                  80

Thr Asn Ile Tyr Ile Phe Asn Leu Ala Leu Ala Asp Thr Leu Val Leu
                85                  90                  95

Leu Thr Leu Pro Phe Gln Gly Thr Asp Ile Leu Leu Gly Phe Trp Pro
            100                 105                 110

Phe Gly Asn Ala Leu Cys Lys Thr Val Ile Ala Ile Asp Tyr Tyr Asn
        115                 120                 125
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Met Phe Thr Ser Thr Phe Thr Leu Thr Ala Met Ser Val Asp Arg Tyr
    130                 135                 140

Val Ala Ile Cys His Pro Ile Arg Ala Leu Asp Val Arg Thr Ser Ser
145                 150                 155                 160

Lys Ala Gln Ala Val Asn Val Ala Ile Trp Ala Leu Ala Ser Val Val
                165                 170                 175

Gly Val Pro Val Ala Ile Met Gly Ser Ala Gln Val Glu Asp Glu Glu
            180                 185                 190

Ile Glu Cys Leu Val Glu Ile Pro Thr Pro Gln Asp Tyr Trp Gly Pro
        195                 200                 205

Val Phe Ala Ile Cys Ile Phe Leu Phe Ser Phe Ile Val Pro Val Leu
    210                 215                 220

Val Ile Ser Val Cys Tyr Ser Leu Met Ile Arg Arg Leu Arg Gly Val
225                 230                 235                 240

Arg Leu Leu Ser Gly Ser Arg Glu Lys Asp Arg Asn Leu Arg Arg Ile
                245                 250                 255

Thr Arg Leu Val Leu Val Val Val Ala Val Phe Val Gly Cys Trp Thr
            260                 265                 270

Pro Val Gln Val Phe Val Leu Ala Gln Gly Leu Gly Val Gln Pro Ser
        275                 280                 285

Ser Glu Thr Ala Val Ala Ile Leu Arg Phe Cys Thr Ala Leu Gly Tyr
    290                 295                 300

Val Asn Ser Cys Leu Asn Pro Ile Leu Tyr Ala Phe Leu Asp Glu Asn
305                 310                 315                 320

Phe Lys Ala Cys Phe Arg Lys Phe Cys Cys Ala Ser Ala Leu Arg Arg
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<211> 1283
<212> DNA
<213> Rattus sp.

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<210> 13
<211> 1177
<212> DNA
<213> Homo sapiens

<400> 13
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<210> 14
<211> 1134
<212> DNA
<213> Homo sapiens

<400> 14
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<210> 15
<211> 367
<212> PRT
<213> Mus musculus

<400> 15
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His Phe Gln Gly Asn Leu Ser Leu Leu Asn Glu Thr Val Pro His His
20 25 30

Leu Leu Leu Asn Ala Ser His Ser Ala Phe Leu Pro Leu Gly Leu Lys
35 40 45

Val Thr Ile Val Gly Leu Tyr Leu Ala Val Cys Ile Gly Gly Leu Leu
50 55 60

Gly Asn Cys Leu Val Met Tyr Val Ile Leu Arg His Thr Lys Met Lys
65 70 75 80

Thr Ala Thr Asn Ile Tyr Ile Phe Asn Leu Ala Leu Ala Asp Thr Leu
85 90 95

Val Leu Leu Thr Leu Pro Phe Gln Gly Thr Asp Ile Leu Leu Gly Phe
100 105 110

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Trp Pro Phe Gly Asn Ala Leu Cys Lys Thr Val Ile Ala Ile Asp Tyr
        115                 120                 125

Tyr Asn Met Phe Thr Ser Thr Phe Thr Leu Thr Ala Met Ser Val Asp
    130                 135                 140

Arg Tyr Val Ala Ile Cys His Pro Ile Arg Ala Leu Asp Val Arg Thr
145                 150                 155                 160

Ser Ser Lys Ala Gln Ala Val Asn Val Ala Ile Trp Ala Leu Ala Ser
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Val Val Gly Val Pro Val Ala Ile Met Gly Ser Ala Gln Val Glu Asp
            180                 185                 190

Glu Glu Ile Glu Cys Leu Val Glu Ile Pro Ala Pro Gln Asp Tyr Trp
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Gly Pro Val Phe Ala Ile Cys Ile Phe Leu Phe Ser Phe Ile Ile Pro
    210                 215                 220

Val Leu Ile Ile Ser Val Cys Tyr Ser Leu Met Ile Arg Arg Leu Arg
225                 230                 235                 240

Gly Val Arg Leu Leu Ser Gly Ser Arg Glu Lys Asp Arg Asn Leu Arg
                245                 250                 255

Arg Ile Thr Arg Leu Val Leu Val Val Val Ala Val Phe Val Gly Cys
            260                 265                 270

Trp Thr Pro Val Gln Val Phe Val Leu Val Gln Gly Leu Gly Val Gln
        275                 280                 285

Pro Gly Ser Glu Thr Ala Val Ala Ile Leu Arg Phe Cys Thr Ala Leu
    290                 295                 300

Gly Tyr Val Asn Ser Cys Leu Asn Pro Ile Leu Tyr Ala Phe Leu Asp
305                 310                 315                 320

Glu Asn Phe Lys Ala Cys Phe Arg Lys Phe Cys Cys Ala Ser Ala Leu
                325                 330                 335

His Arg Glu Met Gln Val Ser Asp Arg Val Arg Ser Ile Ala Lys Asp
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Val Gly Leu Gly Cys Lys Thr Ser Glu Thr Val Pro Arg Pro Ala
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<212> DNA
<213> Mus musculus

<400> 16
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<210> 17
<211> 75
<212> DNA
<213> Mus musculus

<400> 17
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aaccctctga gagga 75

<210> 18
<211> 81
<212> DNA
<213> Mus musculus

<400> 18
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gacctcattt ctctcctgca g 81

<210> 19
<211> 15
<212> PRT
<213> Unknown Organism

<220>
<223> Description of Unknown Organism: Synthetic GlySer
linker

<400> 19
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1 5 10 15

<210> 20
<211> 20
<212> DNA
<213> Mus musculus

<400> 20
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<210> 21
<211> 21
<212> DNA
<213> Mus musculus

<400> 21
cccagaagga tgtctgtgcc c 21

<210> 22
<211> 48
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic probe

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<210> 23
<211> 45
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic probe

<400> 23
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<210> 24
<211> 20
<212> DNA
<213> Mus musculus

<400> 24
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<210> 25
<211> 21
<212> DNA
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<400> 25
cccagaagga tgtctgtgcc c 21

<210> 26
<211> 76
<212> DNA
<213> Mus musculus

<400> 26
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tcacattcag gttaga 76